OCCUPATIONAL ILLNESSES AND INJURIES DUE TO EXPOSURE TO BENLATE AS REPORTED BY PHYSICIANS IN CALIFORNIA IN 1979

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SUMMARY

During the year 1979, there were 10 cases of overexposure of workers to pesticides involving Benlate that were reported in California by physicians. Summaries of the circumstances of these exposures are given in this report. Nine cases were reported as skin injuries, and 1 case as a skin and eye injury. In most instances, exposure resulted from contact with spray drift during the application or from contact with treated foliage or plants. Care needs to be exercised when working with Benlate. Following label precautions concerning protective clothing tends to minimize exposure. The active ingredient in Benlate is benomyl. By ingestion, inhalation, and dermal exposure routes, benomyl has negligible acute toxicity. Laboratory animal data suggests that this chemical may be a weak teratogen.

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CASE STUDIES

Nursery/Greenhouse Worker - 5 cases

Skin Injury

A nurseryman was applying Benlate and Orthene on carnations when he was exposed to the spray. Details of the incident were not reported. He developed an allergic skin reaction, and was treated by a physician. He lost no time from work. It was not reported if proper safety equipment was used.

An employee was exposed to Benlate spray mist while assisting in the application operation in a greenhouse. Kelthane was also reportedly applied. The next day, he noticed a rash on his face. He reportedly wore all recommended safety equipment, including a respirator; however, the spray still got on his face. No time was lost from work.

Several days after spraying Benlate on some plants, a nurseryman noticed a slight burning and stinging of his cheeks and eyes. The following day, the irritation became worse. A physician diagnosed the injury as irritative dermatitis of the eyelids. It was not reported if proper safety equipment was used. The man lost no time from work.

While a nurseryman was spraying Benlate and Lannate on carnations, some spray ran down his glove and under his sleeve onto his arm. He experienced itching and burning on his arm. He reportedly wore all the required protective equipment. No time was lost from work.

An employee was watering plants which had just been treated with Benlate and Pentac. That night she developed a rash. She stated she was aware that the plants had been sprayed, and was wearing gloves and a long-sleeved shirt at the time of the exposure. The pesticides had been applied approximately 6 hours before she began to water the plants. She had a previous history of an allergic response when coming in contact with Benlate. She did not miss any time from work.

Mixer/Loader (ground application) - 1 case

Skin Injury

A worker was mixing and loading Benlate and captan for application to grapes. He developed a rash shortly thereafter. Details of the incident were not given. No time from work was lost.

Ground Applicator - 1 case

Skin Injury

An applicator was applying Benlate and captan on prunes. When the wind changed abruptly, the material blew back into his face. The irritation was diagnosed by a physician as contact dermatitis. No safety equipment was reportedly used. No time from work was lost.

Field Worker - 1 case

Skin Injury

A worker was "suckering" grapevines which had been treated with Benlate, Kryocide, and captan 2 to 3 days prior to the date of injury. He developed a rash on his arms, neck, and chest. He was treated by a physician and released. It was not reported if any time from work was lost.

Flagger - 1 case

Skin Injury

A flagger reported skin irritation after working with Benlate, Ziram, and Captan 50W. The rash was on her face, neck, legs, and arms. She did not give any more details of the incident. Time off from work was not reported.

Tractor Driver - 1 case

Skin and Eye Injury

While driving a tractor through a peach orchard that was treated 4 days before with Benlate and Ziram, the driver reported getting some material in his eyes. He developed an eye irritation and skin eruptions on his neck. He lost 1 week of work.

DISCUSSION

Benlate is a systemic fungicide. It is used for the control of many fungus diseases of fruits, nuts, vegetables, field crops, turf, and ornamentals. The main hazard relative to Benlate is contact dermatitis. Nine of the 10 reported cases were skin irritations of some sort. The workers were treated by physicians for dermatitis, and returned to work. Only 1 individual required 7 days of disability; he suffered a skin and eye injury. Because Benlate is a toxicity category III material, perhaps workers are not as cautious as they should be when handling these materials. Proper protective clothing should be worn. If exposure does occur, the person should wash the contaminated area. Persons exposed should have all their clothes washed daily, and they should take a complete bath daily.

The active ingredient of Benlate is benomyl. This chemical has negligible acute toxicity when exposure is by inhalation or ingestion, or on the skin. Laboratory animal studies show the potential for teratogenicity with high dose exposure.

TABLE I

Occupational Illnesses and Injuries Due to the Exposure to Benlate as Reported by Disability Status in 1979

Days of Disability	Reported Cases
0	7
1-7	1
unknown	2
TOTAL	10

Total disability is 7 days.
No hospitalization was required.

TABLE II

Occupational Illnesses and Injuries Due to the Exposure to Benlate as Reported by County of Occurrence in 1979

Alameda	1	Santa Barbara	1
Kern	1	Stanislaus	1
Madera	2	Sutter	1
San Diego	2	Yuba	1